

- 6) Absence of distinct paired gonopodia
- 6) Gonads ~~with~~ without gonostyles.

Thus Cephalochordates will show many primitive characters.

→ Special characters of cephalochordata :-

- i) Because of its ciliary mode of feeding the pharynx is articulated with many gill slits.
- ii) oral hood is well developed for ciliary mode of feeding.
- iii) Because of its ciliary mode of feeding the atrium is very well developed.

Thus, Amphioxus show some special characters which are developed because of its ciliary mode feeding.

→ The Cephalochordata relationship with Urochordates:-

Cephalochordates show many close relationship with urochordates.

In some points they differ

Similarities:-

- i) presence of gill slits in pharynx.
- ii) presence of endostyle in pharynx.
- iii) presence of sidory mode of feeding
- iv) presence of atrium.

Difference:-

- i) Absence of test.
- ii) Absence of distinct heart
- iii) presence of notochord and nerve cord in the adults.

- iv) presence of post ~~and~~ anal tail.
- v) The ~~the~~ presence of liver diverticulum.
- vi) The development of hepatic portal system.
- vii) presence of mydomes and which are useful for locomotion.
- viii) In these characters Cephalochordates resembles chordates.

→ The cephalochordate primitive characters:-

- 1) The excretory system containing protonephridia.

In the chordate world, the presence of Solenocytes is not reported. But, In Amphioxus solenocytes are associated with Nephridium.

- 2) Absence of heart and kidney.
- 3) Absence of paired limbs or paired fins.
- 4) Absence of distinct head.

The Subphylum - Cephalochordata
includes Amphioxus or Branchiostoma.

i) Pallas described this animal first.
He named it as *Urochordata*.
He included this in mollusca.

ii) In 1834, Costa described its chordate
features.

iii) In 1836, Yarrell named it as Amphioxus.

Chordate features of Cephalochordata (Amphioxus):

i) presence of dorsal tubular nerve
cord.

ii) presence of long notochord from
anterior end to posterior end on the
dorsal side. Because it extends in
cephalic region hence it is called
Cephalochordate.

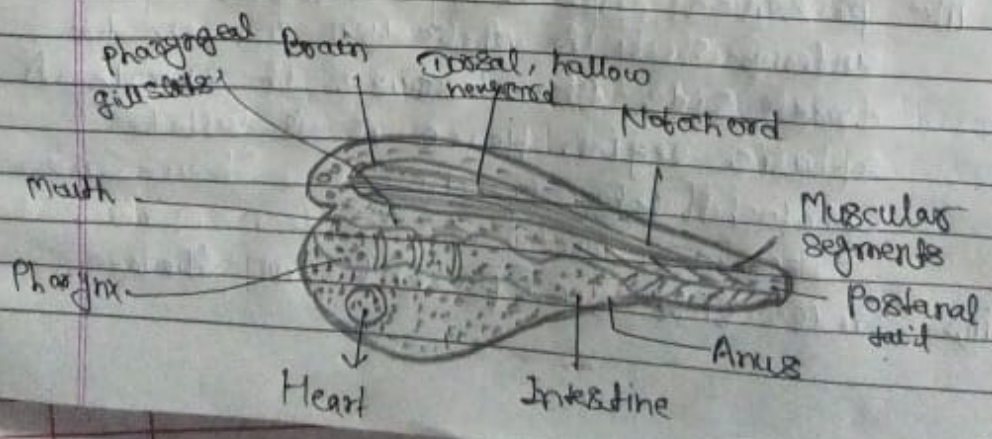
iii) Gill slits are present in the

23-04-2020

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Dumraon, B.Sc. Part 2, Paper (111A)

Ques:- Cephalochordata kay Classification ko
lekhkar hua chitra Sahit Naman
Karey.

Ans:- The sub-phyllum cephalochordata
Includes a single class - Leptocardil
which has single family, Branchiostomidae.
The family contains only two genera
Branchiostoma and Azygometron.



presence of myotomes in the adult.

In this way cephalochordates differ with urochordates.

→ Cephalochordates Show Some Invertebrate features:

- i) Presence of Paired nephridia like annelids.
- ii) presence of flame cells like Platyhelminths.
- iii) presence of soft body and slug like appearance like molluscs.

By considering the above facts we come to a conclusion that

Amphioxus is a chordate animal. Amphioxus is a degenerate jawless chordate animal. It mainly shows chordate. It differs from urochordates in some aspects. Hence, it is separated and kept in a separate sub phylum called cephalochordate.